

# LYMPHOHEMOPIETIC NEOPLASMS AND DIOXIN EXPOSURE IN THE SEVESO COHORT 30 YEARS AFTER THE ACCIDENT (1977-2006)

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**Background and Aims:** The 1976 Seveso, accident caused the contamination of a large inhabited area by 2,3,7,8-tetrachlorodibenzodioxin (TCDD). Three zones with decreasing soil TCDD levels were delimited: A (highest), B (high) and R (low). Persons ever living in the contaminated zones and in a surrounding non-contaminated area were followed-up, blind of their exposure status, to evaluate long-term health consequences. The main finding of the mortality (1976-2001) and cancer incidence study (1977-1991) was an increase in lymphatic and hematopoietic cancers in the most polluted zones (A and B). We report preliminary results of the extension of the follow-up to 30 years after the accident for lymphohemopoietic cancers.

**Methods:** Incident cancer cases were ascertained through the hospital discharge registration system of the Lombardy region, where over 95% of the cohort was still resident in 1986. For each case all relevant medical records were reviewed. Relative risks (RR) and 95% Confidence Intervals (CI) were estimated with Poisson regression techniques controlling for age, gender and calendar period using the surrounding non contaminated area as reference.

**Results:** The incidence of all lymphohemopoietic cancers was slightly increased in zone A (6 cases, RR = 1.2; 95%CI 0.5-2.7) and showed a 50% excess in zone B (47 cases; RR=1.5; 95%CI 1.1-2.0). Non-Hodgkin's Lymphomas were modestly increased in zone B, whereas the RR for all leukemias was 2.0 (95%CI 1.2-3.4). 5 cases were lymphatic leukaemia and yielded a RR of 1.6 (0.6-4.1); 10 cases of myeloid leukaemia showed a RR of 2.1 (95%CI 1.04-4.15). All lymphatic leukaemias occurred after 20 years since the accident (RR=4.0; 95%CI 1.4-11.6) whereas myeloid leukaemia did not show a consistent pattern across different categories of time since the accident.

**Conclusions:** The extension of the follow-up confirms an increased risk for lymphatic and hemopoietic cancers, particularly leukemia, in the Seveso population.